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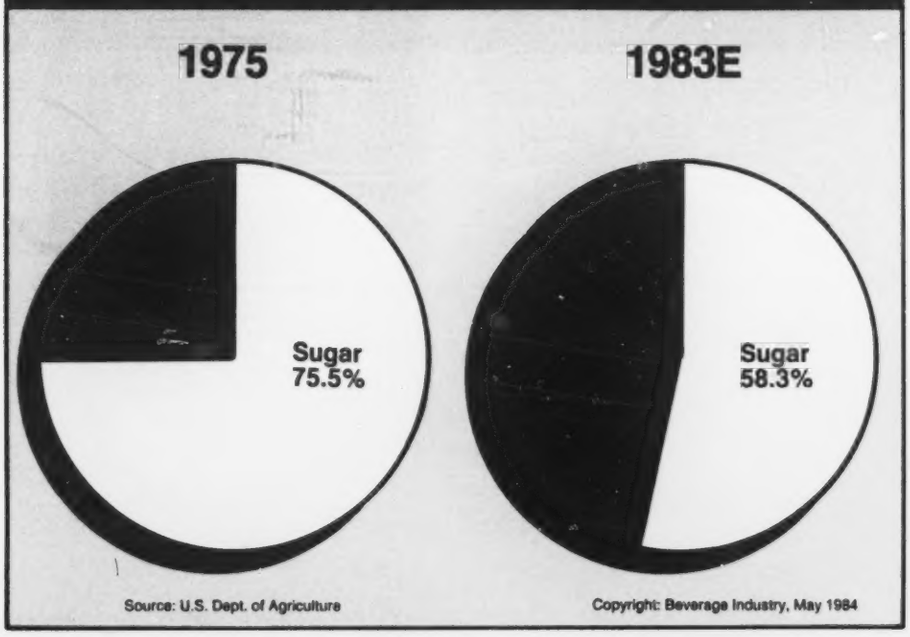
MAY 1984

Beverage Industry

MARKETING □ DISTRIBUTION □ TECHNOLOGY

AN HBJ PUBLICATION

Per capita consumption of caloric sweeteners



Aseptics generate new flavor demands

SPECIAL REPORT—The advent of aseptic packaging in the U.S. is providing bottlers with the greatest opportunity to expand business since the introduction of diet soft drinks.

That's the consensus among top executives of leading independent flavor manufacturing firms who are reporting a windfall of new customers, several of whom are also predicting that soft drink bottlers, because of their extensive distribution networks, will eventually capture more than 90% of the aseptic beverage market.

Perhaps one of the most significant aspects of bottlers becoming increasingly involved in distribution of aseptically processed/packaged juices and drinks, according to one industry expert, is that a previously untapped segment of consumers — those 12 years old and under — is being opened up.

"We've been passing this segment of consumers for years," says Harold Bateman, president of Hurty Peck & Co. "But with bottlers entering the aseptic market, they'll be producing nutritious, good-tasting, high-quality products. This, no doubt, will have great appeal to the parents who do most of the buying for children in this category."

Based on present sales, most flavor suppliers indicate there is unlikely to be any immediate or dramatic change in flavor preferences amoung consumers. The "Big 4," as one supplier dubbed orange, grape, lemon and fruit punch flavors, remains strong.

What the industry *can* ex-

(Continued on page 12)

HFCS suppliers gearing to meet demand

EXCLUSIVE—The usage of high fructose corn syrup by soft drink bottlers has grown dramatically in recent years because of its economical price and increased approval levels by parent companies.

John C. Maxwell, Jr., **BI**'s director of research/statistics, looks for further increases in the amount of HFCS used by bottlers in cola shelf products and "would not be surprised to see a slight rise in fountain syrup usage as well." He adds that because of this, supply will be tight this summer.

Beverage Industry recently interviewed high-ranking officials at the industry's major HFCS suppliers. Included were Martin L. Andreas, president **ADM Foods**; John Sweeney, vp-Corn Milling Div., **Cargill**; Patric J. McLaughlin, vp-marketing and sales, **American Maize**; James F. Holsinger, vp-sales and marketing, **Hubinger**; Robert W. Spaeth, vp-sales, marketing and business management, **CPC International**; and, Wayne S. Martin, vp, **A.E. Staley Manufacturing Co.**

What follows is our questions and their responses to key questions affecting the soft drink industry.

BI: What is the current supply demand situation with regard to HFCS 55 and 42?

ADM: The demand on 55 is surprisingly strong for this time of year although there have been some factors that have helped that along like Coke's recent approval at 75%. Plus, it seems that the economy has picked up substantially. The bottlers, in general, tell us that they are having an excellent March. It looks as though they are starting to build inventories

(Continued on page 40)

BI Report

• Trim, a low-calorie, caffeine-free product, is being tested by General Cinema Corp. in Atlanta and other undisclosed locations. Like most companies, GC maintains a "no comment" posture on new product ventures. However, BI learned that the product is being handled by what was described as a "totally separate" company, Trim Beverages Inc., which is located at the same address as GC's Sunkist subsidiary in Atlanta. Although General Cinema owns the Atlanta Pepsi franchise, the product is not being produced in that facility nor is it being marketed by the local bottler.

It is sweetened with

(Continued on page 65)

1983: 'Year of the Can'

CMI report reflects 8.1% can increase

WASHINGTON, D.C.—The "Year of the Can" is the only way to describe 1983 for the soft drink and retail food industries, says Michael Dunn, president of the Can Manufacturers Institute.

The reason? Total soft drink can shipments grew 8.1% in 1983, according to can shipment data compiled by Ernst & Whinney. The figures follow upon the heels of a 3.1% increase recorded in 1982.

Soft drink can sales growth through food stores during last year was even more explosive, according to A.C. Nielsen. Can volume grew 12.3% from 10.3 billion 12-oz. units during the period of January through November 1982 to 11.6 billion cans during the same period in 1983. Meanwhile, overall soft drink volume in food stores grew by 5.8%, reflecting only half the can's growth rate. Cans, according to CMI, accounted for half the total 2.3 billion unit food store gain.

In five regions of the United States, 1983 can sales volume in food stores exceeded the 12.3% national growth rate average.

"The beverage can's spectacular showing in 1983 was the direct result of appreciation by bottlers of can profitability and can recycla-

(Continued on page 14)

Coca-Cola USA kicks off a summer Olympics promotion with new packaging. See page 19.

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Features

1 **HFCS suppliers speak out**
High-ranking executives of the major HFCS suppliers say they can meet the growing demands of the soft drink industry while keeping a careful eye on quality and consistency.

1 **Aseptics generate flavor alternatives**
Flavor suppliers are predicting that bottlers will eventually capture 90% of the aseptic beverage market because of their extensive distribution networks. They also predict more sophisticated fruit flavors will begin to gain popularity.

4 **Survey reveals ingredient trends**
Beverage Industry's fourth in a series of 12 focus reports surveys ingredients suppliers on current purchasing trends. Suppliers of HFCS, citric acid and caffeine express their views.

22 **BI Battleground III: Phoenix**
One of America's fastest growing cities and one of its thirstiest, Phoenix is truly a battleground for bottlers and beer distributors. Discounting is a way of life here.

31 **Are leveraged buyouts dangerous?**
In his last installment of a three-part series, Ugo F. Ippolito discusses some of the dangers involved in leveraged buyouts and the elements necessary to complete one. They're not suited to all companies.

50 **Fixed-cost concept for trucks**
Bottlers and beverage distributors may find the maintenance of their fleets a big job, and at times bothersome. For them, the fixed-cost concept could eliminate some headaches.

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Soundoff

"... The scientific panels conclusion that saccharin does not increase the risk of bladder cancer in man was based on the results of the International Research and Development Corp. (IRDC) study, the data from 12 epidemiology studies which indicated saccharin did not pose an increased risk in humans, and previous single generation studies in several species other than the rat which showed no increased risk of bladder cancer.

"The panel also took into consideration the current research of Dr. Andrew Renwick, University of Southampton, England, which has demonstrated that the biochemical and physiological changes occurring in the rat in high doses do not occur in humans under normal human consumption levels."

Kenneth H. Wilkinson
director of governmental affairs
International Research Development Corp.
summarizing an IRDC study evaluating the effect of saccharin on rats.

BEVERAGE INDUSTRY (ISSN-0148-6187) is published monthly by Magazines For Industry, Inc., a subsidiary of Harcourt Brace Jovanovich Publications. Corporate and Editorial offices: 7500 Old Oak Boulevard, Cleveland, Ohio 44130. Advertising offices: 747 Third Avenue, New York, New York 10017 and 111 East Wacker Drive, Chicago, Illinois 60601. Accounting, Advertising Production and Circulation offices: 1 East First Street, Duluth, Minnesota 55802. Subscription rates: $35 per year in the United States; $45 per year in Canada. All other countries: $70 per year. Single copies (prepaid only): $2 in the U.S.; elsewhere $6.00; add $3.00 for shipping and handling per order. Second class postage paid at Duluth, Minnesota 55806 and additional mailing offices.

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Beverage Business Indicators*

Selected Consumer Price Index (base: 1967 = 100)

	November 1983	December 1983	% Change	December 1982	Dec. '82 vs. Dec. '83 % Change
Cola	315.7	314.3	(.44)	307.2	2.3
Other carbonated soft drinks	149.4	148.8	(.40)	142.2	4.6
Noncarbonated drinks	141.8	141.8	0	139.0	2.0
Wine	234.8	232.1	(1.1)	235.6	(1.5)
Beer and ale	225.9	225.5	(.17)	212.6	6.1

The Consumer Price Index (CPI) is a measure of the average changes in prices over time in a fixed "market basket" of goods and services. The index measures price changes from a designated reference date which equals 100 (usually 1967). An increase of 22 percent, for example, is shown as 122. This change can also be expressed in dollars as follows: The price of a base period "market basket" of goods and services in the CPI has risen from $10 in 1967 to $12.20.

Source: U.S. Department of Labor Bureau of Labor Statistics

Closures for Beverages (thousands of gross)

	August 1983	September 1983	% Change	September 1982	Sept. '82 vs. Sept. '83 % Change
Metal (for spirits, wines)*	75,945	63,752	(16.1)	48,407	31.7
Plastic (for spirits, wines)*	135,002	140,528	4.1	126,012	11.5
Metal Crowns (beer & soft drinks)	15,135	14,203	(6.2)	16,709	(15.0)
Soft drink (convenience and conventional)	5,591	6,189	10.7	7,512	(17.6)
Beer (convenience and conventional)	9,544	8,014	(16.0)	9,197	(12.9)
All other metal closures other than crowns	9,023	8,287	(8.2)	5,665	46.3

*thousands of units

Source: U.S. Department of Commerce Bureau of the Census

Bottle Shipments (thousands of gross) (not seasonally adjusted)

	August 1983	September 1983	% Change	September 1982	Sept. '82 vs. Sept. '83 % Change
Glass Bottle Production Total Bottles:	28,422	24,909	(12.4)	26,515	(6.1)
Beverage: Refillable	230	200	(13.0)	207	(3.4)
Nonrefillable	6,117	5,189	(15.2)	4,986	4.1
Beer: Refillable	187	184	10.2	21	776.2
Nonrefillable	8,996	7,391	(17.8)	8,240	(10.3)
Liquor	1,110	1,276	15.0	1,182	8.0
Wine	870	735	(15.5)	667	10.2
Plastic Bottle Production* Carbonated beverages	167,479	165,852	(.97)	225,052	(26.3)

*thousands of units

Source: U.S. Department of Commerce Bureau of the Census

Selected Producer Price Index (base: 1967 = 100)

	November 1983	December 1983	% Change	December 1982	Dec. '82 vs. Dec. '83 % Change
Soft drinks	330.3	331.6	.39	320.7	3.4
Alcoholic beverages	207.1	206.1	(.48)	199.6	3.3
Beverages and beverage materials	266.1	266.5	.15	259.0	2.9
Packaged beverage materials	326.9	330.0	.94	326.5	1.1

The Producer Price Index (PPI) is a measure of the average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. These data were formerly called the Wholesale Price Index. The name was changed to more accurately reflect the coverage of the data. PPI's are designed to be interpreted in the same manner as the CPI.

Source: U.S. Department of Labor Bureau of Labor Statistics

Imported Beverages (proof gals)

	October 1983	November 1983	% Change	November 1982	Nov. '82 vs. Nov. '83 % Change
Beer*	17,320,101	16,133,442	(6.9)	15,391,364	4.8
Whiskey	11,264,760	7,331,946	(34.9)	8,178,758	(10.4)
Brandy	612,443	710,761	16.1	673,330	5.6
Gin	698,019	703,016	.71	655,186	7.3
Rum	135,705	121,034	(10.8)	126,409	(4.3)
Cordials & liqueurs	946,621	1,105,988	16.8	1,103,575	.21
Others	1,350,984	993,696	(26.4)	1,007,303	(1.4)
Total	32,328,633	27,099,883	(16.2)	27,135,925	(.13)
Sparkling wines	1,209,466	1,482,361	22.6	1,133,457	30.8
Still wines, table	10,179,594	10,441,302	2.6	10,754,660	(2.9)
Still wines, fortified	267,530	361,402	35.1	449,994	(19.7)
Vermouth	278,476	291,737	4.8	326,826	(10.7)

*Includes ale, stout, porter

Source: National Association of Beverage Importers, Inc.

Sweeteners (cents per pound)

	December 1983	January 1984	% Change	January 1983	Jan. '83 vs. Jan. '84 % Change
55% Corn Syrup High Fructose Decatur, IL, tank cars, cwt.	14.25	14.25	0	14.25	0.
Sugar, liquid ind. no. 2 per cwt. solids, F.O.B. (N.E. refinery)	32.20	31.45	(2.3)	25.00	25.8

Please Note: 42% Corn Syrup High Fructose figure will no longer be available.

Source: The Journal of Commerce

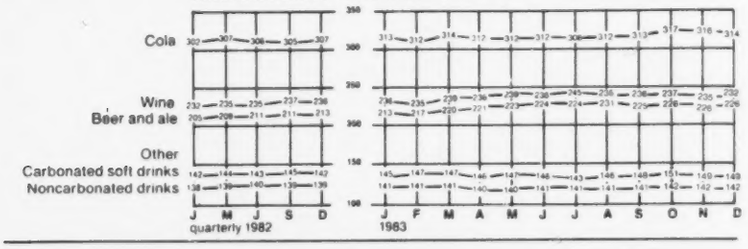
Alcoholic Beverage Removals (barrels of 31 gals)

	September 1983	October 1983	% Change	October 1982	Oct. '82 vs. Oct. '83 % Change
Beer	15,049,484	13,769,109	(8.5)	14,078,641	(2.2)
Wine*	32,739,034	38,873,152	18.7	40,691,266	(4.5)
Spirits*	32,982,911	36,951,649	12.0	37,431,402	(1.3)

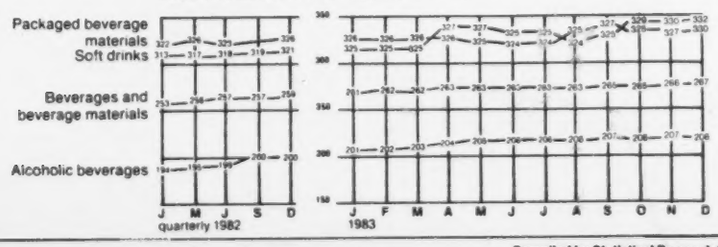
*wine gals

Source: U.S. Department of the Treasury Bureau of Alcohol, Tobacco and Firearms

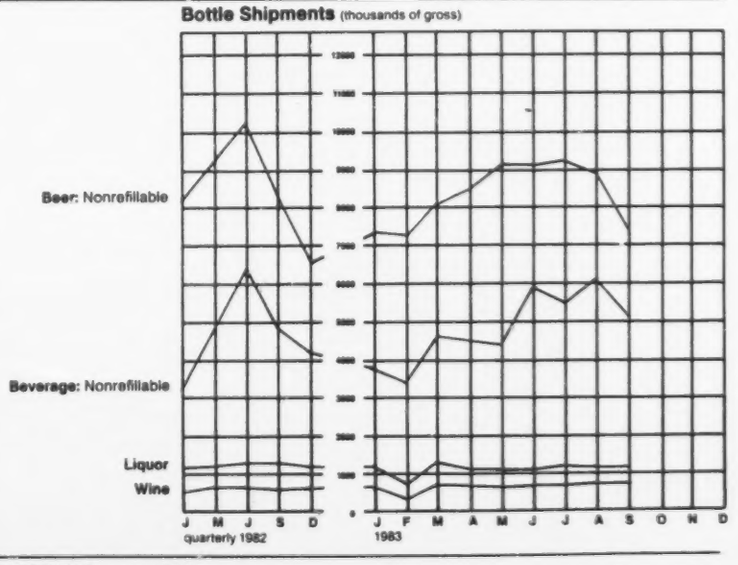
1983 Consumer Price Index (1967 = 100)



1983 Producer Price Index (1967 = 100)



Bottle Shipments (thousands of gross)



Compiled by Statistical Research Center (SRCH) for Beverage Industry

CMI report reflects 8.1% can increase

(Continued from page 1)
bility, increased multi-packing by soft drink canners and successful marketing programs conducted by can makers throughout the country," says Dunn, adding that cans were "the vanguard package" for several new soft drink brands introduced during the year.

"Plus, the can-dominated vending market had a very good year," he adds.

"The can, because of its high cube efficiency and selling value, is the most profitable package for both bottlers and retailers," Dunn says, documenting CMI's 1981 Booz-Allen & Hamilton bottler study and its 1983 McKinsey & Co. retailer study.

"The McKinsey retailer study demonstrates that more of a retailer's typical everyday 20% gross margin is profit with cans than any other store-delivered package. The profit yield per square foot of shelf space," says Dunn, "is nearly twice as much with cans as compared to the most profitable bottle."

Bottle bills

During 1983, the aluminum can recycling rate rose to between 55% and 60% of all aluminum beverage cans sold.

"Clearly, one of the best ways for bottlers to help retailers ward off new bottle bills is to become active in both aluminum and steel can recycling," asserts Dunn.

Soft drink growth patterns: recent deposit states

Massachusetts	% Growth/Food Stores 1983 vs 1982
Cans	+ 8.9
Small/Medium	-38.1
Pints	- 1.5
Quarts	-10.4
2-L	+12.0
Total	+ 5.9

New York State	Oct./Nov. 1983 vs Oct./Nov. 1982
Cans	+ 3.5
Small/Medium	-28.6
Pints	-13.1
Quarts	- 9.1
2-L	+ 5.0
Total	- 1.8

Source: Can Manufacturers Institute

Copyright: Beverage Industry May 1984

In deposit law states, cans turned in a strong 1983 performance in food stores, particularly in Connecticut and Michigan (see related chart). Cans not only have rebounded well in earlier deposit states, but in both Massachusetts and New York (the most recent states to enact deposit bills) cans have increased both volume and market share (see related chart).

Nielsen reports that in metropolitan New York (including 25% of New Jersey) cans "appear to be faring slightly better than 2-L." "Glass packages, particularly the smaller sizes, have lost significant volume and share as a result of the greater handling problems they pose for consumers and retailers," says Dunn.

"Deposit laws may be a short term boon . . ., but in the long run hurt consumers and the industry."

"We are pleased, of course, to be where we are in New York, but soft drink can volume in food stores actually has grown at only one-third the can's 1983 national rate of 12.3%," Dunn says. "Therefore, sales are down from what they might have been had the New York law not taken effect.

"Deposit laws may be a short-term boon to some beverage packages, but in the long run their insidious effect on consumer cost, beverage variety and soft drink sales volume hurts consumers and the soft drink industry alike," emphasizes Dunn, stating that CMI remains a firm opponent of mandatory deposit legislation.

For further information on CMI's studies, write: Can Manufacturers Institute, 1625 Massachussetts Ave. N.W., Washington, DC 20036; or call (202) 232-4677. □

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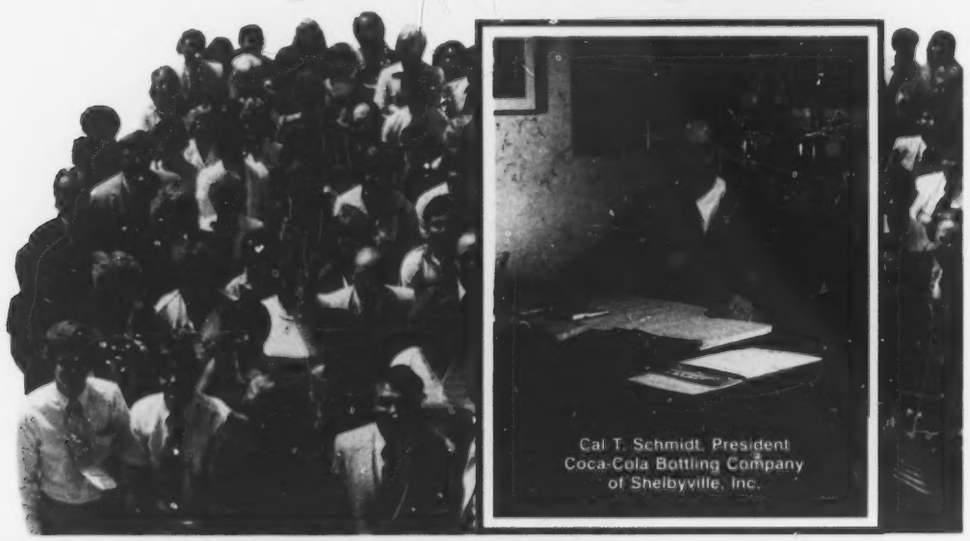

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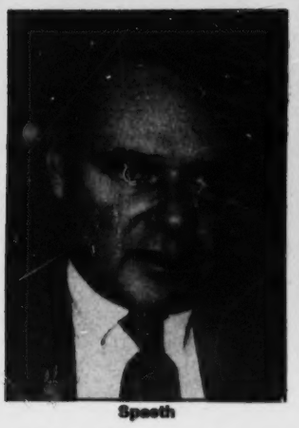
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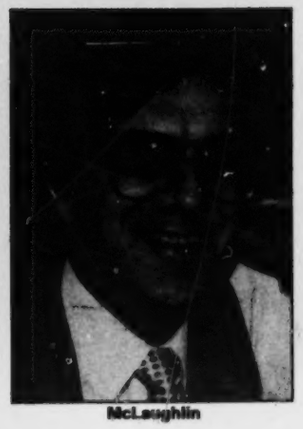
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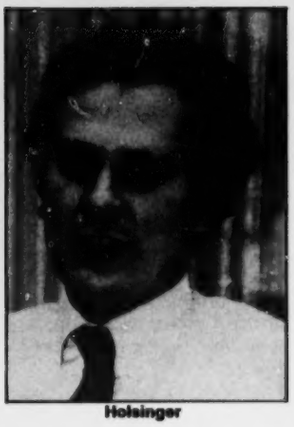

Holsinger

Martin

HFCS suppliers vow to meet industry demand

(Continued from page 1)
for the summer and some of them are setting new all time records for this time of year and that, of course, is being reflected in the 55 demand.

On 42 fructose, the supply at the moment is adequate. Although I believe when we look back at the end of the year, the supply of 42 will have been the surprise story of the year because I believe that a goodly percentage of 42 has been, shall we say, cannibalized and taken into 55 fructose. That's easy to do in a wet milling plant and can be done in a rather expeditious time frame. Therefore, I would predict that 42 fructose will be very tight this year, which is diametrically opposed to the last three years when, in fact, there has been excess capacity.

Cargill: The current supply/demand situation is in the process of rapidly tightening up with the Coca-Cola further approvals earlier this year. We are running right at the moment close to capacity. In the next couple of months, I feel the industry will be running at capacity and demand and in the summer months will probably exceed the supply.

American Maize: Currently, there's enough supply to meet the demand. The demand force is still growing. I think January numbers showed the industry up almost 16% versus last January but the industry will be running up over 90% this year. So, there's enough product but the industry is pushing its production very close to capacity.

Hubinger: The seasonality of the soft drink market is one of the key factors that we see influencing the supply and demand. This summer the increase in demand brought about by seasonality is going to take this industry very close to its full capacity. There may be some supply disruptions possible, but Hubinger is committed to taking care of its business. We've expanded our production facility, adding another million hundred weights to take care of our customers during the tight times this summer and then I think beyond that, the industry needs to grow a little bit to take care of possible decreases in the demand for future years.

CPC: Last year was relatively tight if you consider something above 85% capacity utilization as being high.

There have been a number of franchise bottler announcements during the last nine months. The Coke move increased demand by about 450 million pounds alone. There were additional approvals also among several other franchise companies which increased demand by another 300 million pounds plus.

This has created a very tight HFCS situation. We're figuring 1984 utilization rates above 90% on both types of fructose. This means that the high fructose corn syrup industry will be running at full-out capacity for the year. There is scheduled downtime, so the maximum the industry could be running would be at 95% of capacity. 90% is a realistic number, but even if we reach 91%, 93% ... that's pretty good.

Because of the seasonality of soft drinks and all beverages, the HFCS industry cannot produce enough during the summer to meet the demand. That's why we have been running full out since January to store HFCS to meet the seasonal demand.

A.E. Staley: We project during the peak season, the supply/demand on both 55 and 42 HFCS will be very tight. The demand has increased significantly because of the continuing strength of the beverage industry and the additional approval by Coca-Cola. The corn sweetener industry is prepared to meet this peak seasonal demand with the start-up of several incremental expansions plus the building of HFCS inventories.

BI: What effect has Coke's approval of 75% HFCS had on supply?

ADM: It's added about 325 million pounds of new demand at a time of the year that a wet milling industry is running rather slowly historically. So it has helped the plant running time rates to an extent. It has added some new demand on top of the already very strong business conditions. So it has, in fact, caused some tightness a little earlier than you would normally expect.

Cargill: Naturally it has tightened up the supply situation in the industry although interestingly enough we were predicting a very tight supply demand for the summer months particularly even before the Coke announcement. An interesting sidelight, a lot of the production capacity figures you see are based on maximum capacities. As we all know, sometimes plants the size of the fructose plants don't always run as smoothly as we like to see them. So any hiccup in the system, so to speak, would cause further tightness in these summer months.

American Maize: Of course, it's tightened it up versus last year. I think the number is 400 million or so pound increase in demand. So it simply tightened up supply.

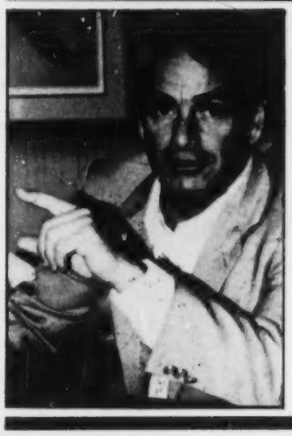
Hubinger: I think it brought current supply to capacity, but we still have our future ahead of us.

CPC: As I said before all of the new approvals have added nearly 800 million pounds of demand. At the same time, however, new capacity is being added throughout the industry both by CPC and others.

We alone have just finished debottleneckling our Stockton, CA, plant and added a HFCS 55 channel. We will also come on stream with new capacity, mostly HFCS 55, at our Winston-Salem, NC, plant in June. Several other manufacturers have also announced expansions. There will be additional 42 and 55 capacity on stream shortly.

The net result of the approvals and new capacity will be to maintain high industry utilization rates and, at the same time, keep supply-demand tight.

A.E. Staley: High fructose producers increased their capacity in anticipation of Coke's approval. The industry is positioned to meet further approvals with already announced expansions.



"I would predict that 42 fructose will be very tight this year, which is diametrically opposed to the last three years..."
—Martin L. Andreas

BI: If Coke moves to 100% authorization and Pepsi to 75, how do you think that will affect supply?

ADM: I think the wet milling industry is hopefully anticipating that will happen and there is capacity that is being put on stream. Some of it, of course, was publicly announced. I think there are other conversions that aren't necessarily publicly announced of 42 to 55. So that, in fact, as these approvals hopefully come along, the industry will be able to meet the supply/demand.

Cargill: Naturally again, this will make it even tighter. We have a plant coming on stream effective early 1985 in Iowa, which will tend to offset some of that increase in demand if Pepsi and Coke make those further announcements. Other people have put on some incremental expansion; with our new plant coming on stream and with incremental expansion that other people have in the works, we would be able to handle most, if not all, of that expansion and that's on an annualized basis.

American Maize: The industry is certainly expanding just to keep up with demand, versus several years ago when the industry was well in front in terms of supply versus demand. I don't see us going through another period of tremendous oversupply and we'll simply keep up with the growing demands.

Hubinger: There are expansions on the way by other corn wet millers, which I think anticipate increased approvals from the two major cola companies.

CPC: I think most of the wet milling industry believes that the quality of the product is such today that it's very feasible to have 100% conversion even in the colas. I believe that's probably true. The industry's history has been to handle any of these type of shocks quite well. As a matter of fact, too well. We tend to overexpand. I think maybe we're beyond that now.

A.E. Staley: It will depend on the timing of further approvals. The corn sweetener industry has announced several expansions in anticipation of further approvals. The corn sweetener industry has announced several expansions in anticipation of further approvals by both Coca-Cola and Pepsi-Cola.

BI: What's the current price and how has it changed recently in the last couple of months?

ADM: Prices have moved up some in the last six to eight weeks reflecting the stronger demand and the excellent business conditions in the economy. So you have 55 fructose selling at roughly a

15-18% price under sugar depending on whose sugar price you want to use and 42 fructose is still very much of a bargain. It's selling roughly 25-28% under the price of sugar.

Cargill: Prices have moved up for several reasons. Number one, prices earlier in the year were fairly depressed due to the seasonality of the business and certainly well below replacement sugar values. In addition to that, our corn prices over the last month or two have moved up, too. So a combination of low prices to begin with, the tightening of supply and demand and higher corn prices have caused the market to jump up.

American Maize: The current pricing on 55 depending on the zone that you're in is roughly $24. That's up probably $4 from earlier this year from say the January time frame; 42 is up not to the same degree, the prices have strengthened considerably for both products.

Hubinger: Prices had been depressed by overcapacity and slower demand in the winter but with these new announcements and the season coming on, I think you can see pricing return to more functional discounts to sugar, in the area of 10% as opposed to some of the lower prices we saw during last winter.

"I think you can see pricing return to more functional discounts to sugar, in the area of 10% . . ."—Hubinger's Holsinger

CPC: In some cases, prices were depressed last year because of contractual arrangements made in 1982 which did not take into consideration the strong demand in 1983 or the increased demands which we were discussing earlier

We—as an industry—were probably selling the product for less than its worth based on supply and demand in '83. Prices have taken a significant increase in 1984 over 1983. Prices will continue to move up particularly as we move into the season of peak demand through the summer.

A.E. Staley: The current Midwest zone delivered price for Isosweet 5500 is $23/cwt., dsb basis, and the Isosweet 100 price is $19.37/cwt. dsb. These prices have increased during the past three months from depressed levels during the slow demand season.

BI: Assuming increased approval levels, what do you think that will do to prices?

ADM: That is simply dictated by the supply/demand. We have to wait and see. Maybe we'll have a very cool summer as opposed to the very hot summer we had last year. I don't think I could make any predictions on that count.

Cargill: I think during the peak summer months, we'll see prices approaching the replacement value of sugar probably with some discount underneath sugar prices. During the off season months, you would probably tend to see prices at a lower percentage of sugar and we always have to keep in mind what our corn prices are doing because corn is our basic raw material ingredient.

American Maize: I don't think the prices are going to increase dramatically regardless of the increased approval levels. Sucrose, of course, is the ceiling, but I think that the prices are beginning to reach a proper level for the product in its competitive environment, which is really high fructose producers, not the sugar producers.

Hubinger: We have trouble as an industry selling HFCS above the price of sugar so I think that pretty well puts a cap on the pricing and to the extent that capacity is available. I think that's where the pricing will go. Some people may wind up going back to sugar. I don't think that's going to happen. I think the industry will put a very functional price on HFCS-55, a price that encourages further substitution and that the traditional discounts to sugar will be what prevails.

CPC: With utilization levels above 90% prices should continue strong through 1985.

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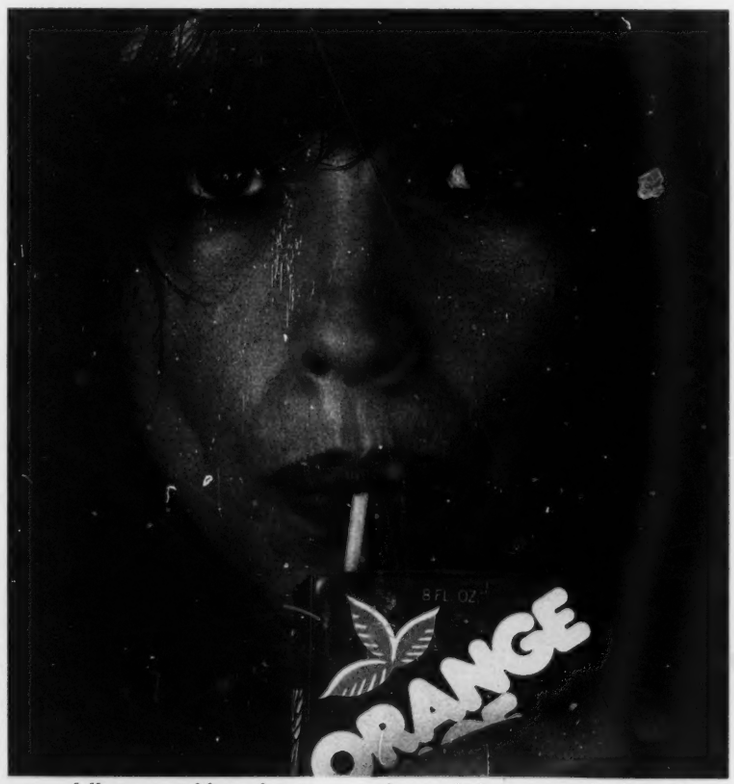

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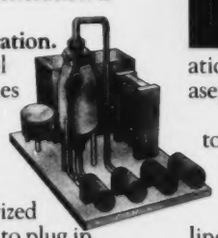

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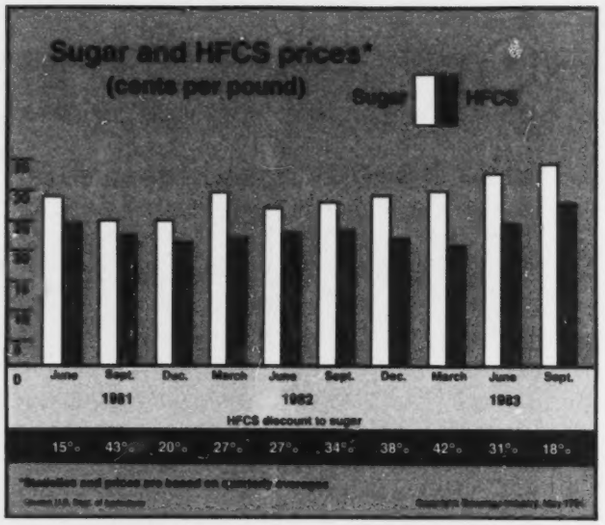
There is little doubt, however, that HFCS 55 will continue to be discounted against the price of sugar. What that percent is will be directly related to industry utilization levels. Even with the improved quality of HFCS and parity with sugar, the discount will exist for the foreseeable future.

I think at least now and in the near future, there will be a discount of HFCS 55 to sugar even though frankly, the product is just as good, maybe even in some cases, better. Better, because the production facilities are all much newer and much more capable of producing higher quality products. But the point is that although the product is just as good as sugar I think the industry will continue to price it at a discount to sugar.

A.E. Staley: We anticipate HFCS prices will peak at a level providing meaningful discounts from the price of sugar.

BI: What's the current status of your company's plans to expand?

ADM: We have very considerable swing capacity between our fuel alcohol business and our fructose business and so we have the option of cutting back our alcohol production some in the summer to meet the demand



of fructose in the summer and make a lot of alcohol in the winter. So, I would say that we hope to be able to meet the needs of all of our major customers without any problems.

Cargill: We are putting on stream a 65,000 bushel a day plant in Eddyville, IA, which is in the southeast part of Iowa. This plant should be on stream some time in early 1985. We are running right on our construction schedule so we expect that should be a good solid date. Most of that capacity will be going into high fructose products.

American Maize: We're right now going to 40% expansion in our Alabama facility, increasing 55 production, 42 production and our grind capability to handle that production. That expansion should be completed by the first quarter of 1985.

Hubinger: Hubinger has an expansion, just recently completed. It's been running for about a week now and will add a million hundred weights dry basis to our annual capacity. This was done with an investment of over $5 million on the part of H.J. Heinz and I think it reflects a commitment to taking care of a segment of the soft drink market that we see as our customers.

CPC: As mentioned before, CPC has debottlenecked one regional plant and added grind capacity in another, significantly increasing HFCS 55 capability in both.

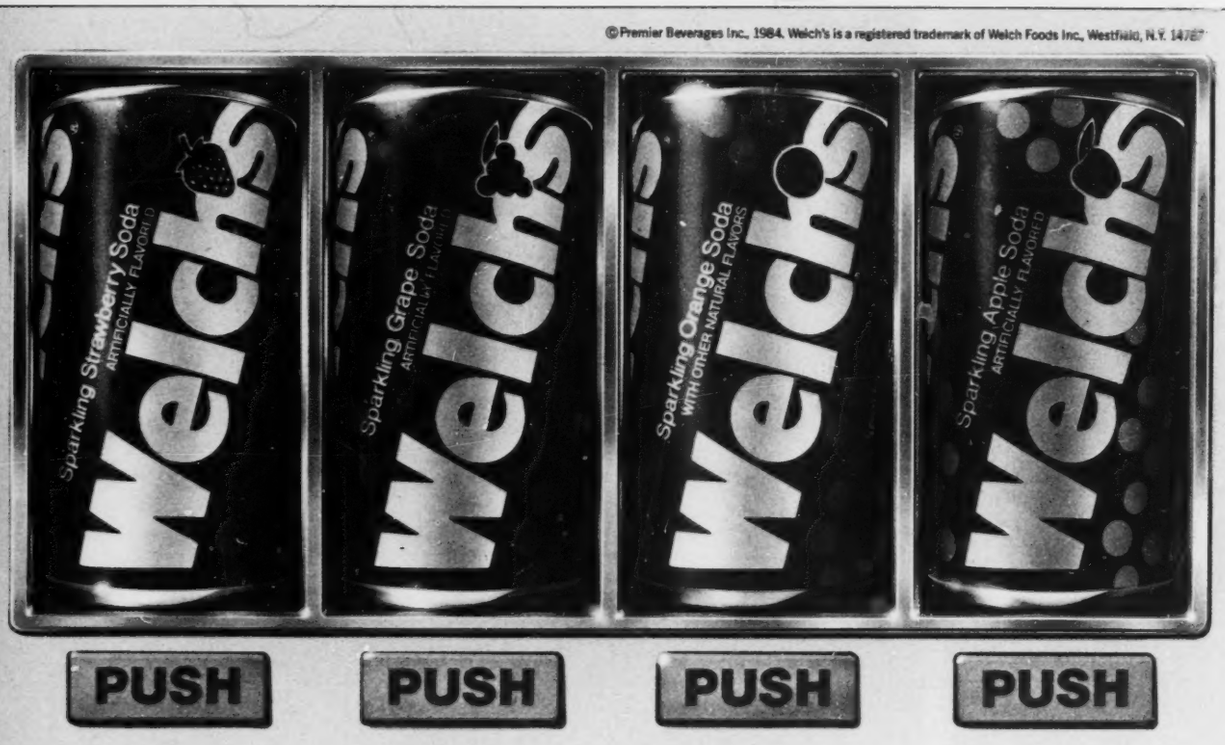
We have also announced a total rebuilding of our largest plant in Argo, IL, adding a good size HFCS 55 channel and also expanding our dextrose production. Completion is expected in 1985.

A.E. Staley: Staley has already completed incremental expansions at our Loudon, TN, plant, bringing its grind capability to more than 100,000 bu/day. We are now completing an expansion of our high fructose finishing capacity which will be on stream in the spring of 1985.

BI: Aside from problems with supply, have there been any other questions, problems or challenges posed by the increased levels of HFCS for your company?

ADM: Probably the major problem that the wet milling industry has is that each time we receive an approval from one of the soft drink companies, it is a very beneficial thing. But the seasonality of the soft drink business becomes a problem that we face along with the soft drink people. By the nature of that, you can't make enough fructose in the summer to supply all the demands, so we have had to go into storage programs so that all the demand can be met.

Cargill: No, not really. Supply is a welcomed prob-



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lem but it also is a great opportunity and we will be endeavoring to manage our business properly so that we can get the product to customers who we deal with on a prompt basis during this tight period of time.

American Maize: I really don't think so. I think that most in the industry through their market research and/or statistics have been able to predict to a fairly accurate degree what was going to happen and giving the economics of sucrose versus high fructose I think that the current trend was anticipated and the increase in supply is not going to create any other problems.

Hubinger: Corn wet milling is an industry that has shown it's capable of expansion and it's met the challenge of very rapid growth. In fact, the milling industry grew faster than the demand. That's why we had such low utilization rates as an industry last year. I think the pace of growth may moderate but I think the industry can meet the challenge of future growth just as it has in the past.

CPC: One major challenge has been quality. There's been a constant improvement in the quality of this product as the industry has worked both collectively and individually with the soft drink industry to meet its standards.

The corn wet milling industry has been most responsive, and the results to date very satisfying. Quality is so improved that we believe it now feasible for 100% HFCS substitution even in cola beverages, which not long ago was not practical. We've been able to meet the challenges of rapid growth.

A.E. Staley: With the high quality standards of the beverage industry, further approval levels have challenged the corn sweetener industry to improve its quality, consistency and integrity of its total distribution system.

BI: We've heard about a quality and consistency program involving San Labs in Cedar Rapids, IA. Did you take part in that at all and, if you did, can you tell us what effect you think it had on the industry?

ADM: It was probably the most important thing that occurred in our industry in 1983 in that for the first time in history we cooperated on an extensive quality improvement program relative to 55 fructose so that, in fact, we hope that the product can be used at 100% level. The results were sent in by all of the wet millers. It was a highly cooperative program and one that proved very beneficial because there was an exchange of ideas on production techniques, fermentation and various heat problems. In fact, our industry is producing a far superior product in quality compared to just nine months ago. It's a very dramatic advance and one of the reasons that we believe that fructose will be used at 100% in colas is because the product has been in a fashion cleaned up and purified to the point that it's almost medicinal. That's something we're very proud of and I think it's what has led to the recent Coke approval at 75%.

Cargill: The cola bottlers have worked with us and the industry very closely in trying to improve the quality of the product. We have submitted samples to San Labs along with several other people in the industry in order to judge and evaluate the consistency of our products. We feel the project has been quite successful in getting the consistency of the product that the cola bottlers desire, which has enabled them to use larger percentages in replacement of sugar.

American Maize: Yes, we took part in the San Labs studies, as did most of the major producers, and I think it has helped in terms of making quality consistent industry-wide. I think it increased the quality level to a degree overall but in terms of plant specific quality, I think it brought the quality of those facilities which were producing something less than the norm, up to the standard.

Hubinger: Hubinger did participate in the quality studies on our fructose corn syrup. There was a cooperative effort on quality. It's important that the quality be consistent among the suppliers to the soft drink companies. They need more than one source and they need a consistent, high quality product. If quality were any consideration in the substitution against sugar, then the industry was well served to take care of that problem in a cooperative effort.

CPC: That was an industry effort and we were involved with it. It's difficult to tell how much of an influence it played in the decision to increase HFCS levels, but it was a factor.

A.E. Staley: We believe that during the past two years significant improvements have been made in the quality and consistency of HFCS products. In fact, it has been stated by those companies who are both corn sweetener and sugar producers that advanced refining techniques have enabled the fructose industry to surpass the sugar industry in quality and consistency.

BI: With regard to quality and consistency, is there much room for improvement for the industry and your company in particular?

ADM: There's always room for improvement in any product. The greater strides

"The cola bottlers have worked with us . . . closely in trying to improve the quality of the product."—Cargill's Sweeney.

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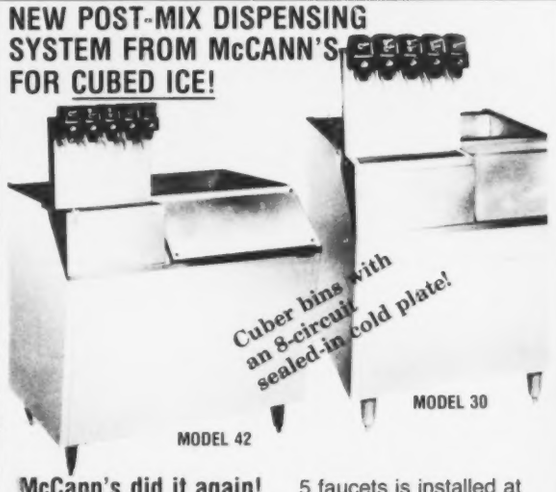

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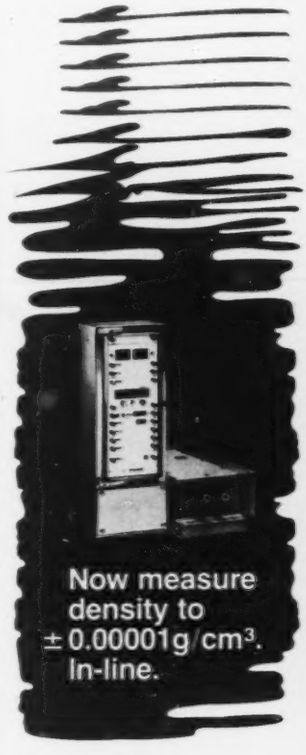

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have probably been made. There are probably still some very minor refinements but I would say that 95%, if not most all of the major strides have been made. We're totally satisfied with the quality of the product and, in fact, feel that it is a product that is superior to any and all sweeteners on the market in the nutritive form at this time.

Cargill: I think the quality of the product has always been extremely high and we now feel that we have an industry-wide consistency of the product. I think that's what most of our customers were looking for in order to have flexibility on sources of supply.

American Maize: Well, we'll be wherever we have to be in terms of the marketplace. I think from a quality standpoint, and this is not to belittle the sugar industry, I think our product is better than sugar ever was. By the same token, the product is still fairly new, if you will, in terms of its tonnage into the marketplace in the last 10 years so that there are probably some subtleties in terms of the makeup of the mixture, the high fructose mixture that we're learning about everyday. It's something you maybe learn and the industry will react to whatever is needed out there.

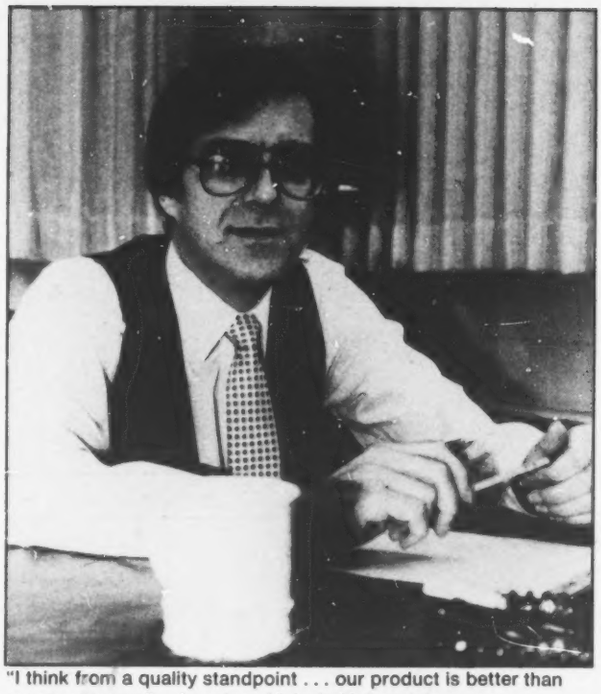
Hubinger: It's a product of superior quality. It's consistent. I guess there's always room for improvement in controlling quality, but the product is a high quality substitute for liquid, cane and beet sugar. It's a highly automated, in our case computerized manufacturing process. It's been around long enough that its technology is fully developed and it's a high quality food ingredient.

CPC: The quality that can be attained today is probably good enough to warrant 100% substitution. Some firms have authorized this level and I expect to see more.

We really don't want more than 100%. If we thought there was something major that had to be done to move to that level, we'd be working with the franchise companies right now to get there.

The challenge facing the industry now is to provide this high quality on a sustained, consistent, and universal basis. At CPC, we have given this mandate the highest priority, and are confident that our three plants can and will do just that.

A.E. Staley: We at Staley continue to invest substantial dollar and people resources in achieving the required quality and consistency to enable the beverage industry to fully utilize HFCS as a total replacement to sugar. We remain totally committed to this goal.



"I think from a quality standpoint . . . our product is better than sugar ever was."—American Maize's McLaughlin.

BI: Consumption of diet soft drinks has grown to just over 17% of the total market, and some analysts project its growth to reach 30% or more thanks in part to the development of NutraSweet. Based on this, what do you think the future of HFCS-sweetened drinks is?

ADM: First of all, I think NutraSweet is a good product. You take a diet Coke or a Diet Pepsi today and it's a much improved product with the aftertaste problem mostly being gone. So I think that that allows for growth in that category, whereas before it was somewhat of a problem with the aftertaste. As far as nutritive sweeteners like fructose, first of all, I think we can hopefully make strides to have fructose at 100% level in the cola drinks. But above and beyond that, there are some new trends in the beverage industry we think are particularly important for fructose. One is Pepsi's new introduction of a product called Slice which, in fact, is a 10% juice based carbonated soft drink. We think that there may be a whole new segment of soft drinks, juice-based soft drinks developing. Also aseptically packaged juice drinks that, in fact, use fructose are growing very rapidly. Shasta's Capri Sun is a big winner and a very fast selling product. I think the aseptic package is something that can cause new growth for sweeteners. I think the whole new juice segment, remembering that fructose has a definitive synergism with any fruit flavor, is an ideal place to use fructose because you actually get an enhancement of the flavor. So I'm not quite as bearish as some of the articles I've read.

Cargill: We feel that the consumption of nutritive-sweetened soft drinks will stay at least at the same level that they are in 1983. That could mean that most of the growth, if not all of the growth, in the industry would be in the diet segment, but we would not see an actual decline in case sales of nutritive-sweetened drinks, and hopefully that is a conservative estimate. I believe it would still allow for a 3-4% industry growth. This would mean that by the late '80s you could see a 30% or even a little bit higher market share for diet drinks and yet still at least the same number of case sales of nutritive-sweetened drinks.

American Maize: I think it will have no effect on the growth of HFCS in the near term. Later, when and if it does hit the 30%, it simply will put an earlier calm, if you will, on the overall growth of HFCS. Our company is not particularly worried about the effects of NutraSweet.

Hubinger: Well to the extent that the diet segment displaces nutritively sweetened soft drinks, I think it's going to have an impact on our future volume as an industry. High fructose is the sweetener of choice in soft drinks. Once we have 100% sucrose substitution, we have to depend on that segment's total growth.

CPC: I believe 30% may be conservative, but our industry could live very well if that is what it becomes at some point in the future. However, the penetration may well be higher – 35% or 40%. At this point, there will be an impact on HFCS demand. If other sweeteners are approved or if NutraSweet continues to grow, both the HFCS and sugar industries may have a problem.

Beyond 1986/87, we could see negative growth in HFCS as high-intensity, non-caloric sweetener usage accelerates. This threat must be addressed soon by the wet milling industry in its avoidance of over expansion, or the industry will suffer with years of under-utilization.

A.E. Staley: We believe the future of nutritive-sweetened soft drinks is very positive. We are still seeing positive growth of this segment of the soft drink industry in spite of large percentage projections and growth for the diet drink segment. We remain active and cautious as we evaluate the potential growth of the diet market and the impact on the nutritively-sweetened soft drinks.

BI: Overall, are there any advances, improvements or innovations that you see on the horizon for your company and/or the industry?

ADM: I think one of the major things that's going on right now in the industry doesn't get much publicity because it's basically a food-oriented industry but the advent of using 200 proof ethynol as an octane booster is something that has grown by leaps and bounds. Over 200 million bushels of corn were used this last year just to make fuel ethynol to boost octane levels. I think that tends to affect ADM. We're a major producer of fuel ethynol but some of the rest of our industry is in that business, too. So we see that as a growth area that after we've reached the so-called finite market of fructose growth. If 100% approvals are able to be achieved in the colas, the question then is big. Where does the growth com from in the wet milling industry. Another area would be the so-called carbohydrate chemicals using starch as a base for chemicals. That's an area that may grow well in the '80s.

Cargill: The industry continues to work on economic methods to crystallize or have a dried fructose product. At the moment, though, the technology is not in place to produce a competitively priced dry product. There is some dry product on the market, but it is used mainly in low calorie specialty applications. We have a 90 high fructose product which could have some exciting new applications and there could be larger markets for this product in the future when it is formulated into products which can meet the demand in the light market segment.

Hubinger: We don't have any announced expansion plan; but our research effort continues all the time.

CPC: The industry has undergone incredible changes over the past few years. It's a tough game to compete in primarily because it takes big dollars and it's a moving target.

I think that for the foreseeable future, people will continue to build state-of-the-art plants in an effort to make sure the soft drink industry is supplied with the products it wants. These plants will be dedicated to producing the highest quality product at the lowest possible cost. We have a duty to the industry and to our stockholders.

For CPC's part, we are committed to be one of the principle players and are dedicated to quality products at the lowest delivered cost.

A.E. Staley: We envision further innovations and technological improvements in the production of existing products, as well as the development of new dry corn sweetened products. We also plan to continue to improve the overall distribution system as we meet the challenges presented by the beverage industry. □

"I think the aseptic package is something that can cause new growth for sweeteners."—ADM's Andreas.